Auto Ontology: NVIDIA's Glossary of Business Terms That Checks AI Agents' Database Queries

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Auto Ontology is an NVIDIA library for data teams that let AI agents query company databases. An ontology works like a glossary: it defines business terms such as "revenue", names the database columns that hold each one, and shows how tables connect. The library

drafts it from the database's tables and columns. People test the draft with real questions and approve each entry. An agent then writes SQL (the language of databases) from the matching terms, checks it against the database and repairs it when a check fails. On a Microsoft sample sales database, one run produced 31 terms. Asked for one product's June 2015 revenue in Pennsylvania, the agent joined six tables and returned $588.80, with its SQL.

NVIDIA's Adel El Hallak told The New Stack that people know a "tier" and a "plan" mean the same thing at a mobile carrier, but language models "mess those up." Without a glossary, an agent guesses which columns count, or a data team writes every definition by hand, for example in dbt's Semantic Layer. Auto Ontology drafts the definitions for people to approve, which NVIDIA says cut creation time by 90% in its own testing. Asked for return on ad spend in a database with no advertising data, the agent asks what to do instead of inventing a number. Agents reach it through MCP, a standard plug-in format for AI agents, a command line or a web API. It reads 10 database types, and each answer typically takes tens of seconds.

Read More: Apache Ossie: One Semantic Model for BI Tools and AI Agents, a shared file format for business definitions that Auto Ontology's README lists for import and export

Sources:

- NVIDIA Auto Ontology (GitHub README)
- Auto-Ontology MCP server (NVIDIA docs)
- NVIDIA Agent Knowledge Foundation (NVIDIA Developer)
- Nvidia bets open models can give enterprise AI agents the context they're missing (The New Stack)
- The dbt Semantic Layer (dbt Developer Hub)

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